

Cooperative Agreement No.: N66001-14-2-4032  
P.R. No.: 1300418366  
Effective Date: 16 July 2014  
CFDA No.: 12.910  
AGO Code: N62880  
Payment Office Code: HQ0337

Grantor: Space and Naval Warfare Systems Center, Pacific  
Code 22530  
53560 Hull Street  
San Diego, CA 92152-5001  
(Attn: Veronica Cardoso, (619) 553-7734, veronica.cardoso@navy.mil)

Recipient: The Trustees of the University of Pennsylvania  
3451 Walnut Street  
Philadelphia, PA 19104-6205

Recipient Identification Numbers/Codes:

DUNS: 042250712  
CAGE: 7G665  
TIN: 23-1352685

Total Agreement Amount: \$22,502,111  
Base (Phase 1): \$10,899,096  
Option (Phase 2): \$11,603,015

Accounting and Appropriation Data:

ACRN: AA 97 14150400 1320 BQ61D 2014 BLS 01 CORE A DARPA 255 HR001149671 01 000  
10601101E00 012199  
MIPR # HR001149671 \$5,734,754

**[AWARD SUBJECT TO ELECTRONIC FUNDS TRANSFER (EFT) REQUIREMENT]**

The recipient of this Agreement must submit an SF 3881, "Payment Information Form," to the payment office named herein if that payment office does not currently have the information needed to pay the recipient by EFT.

Authority: This Cooperative Agreement is issued pursuant to the authority of 10 U.S.C. § 2358.

COOPERATIVE AGREEMENT SCHEDULE

1. Purpose: The purpose of this Cooperative Agreement is to fund research in support of a DARPA sponsored program. This effort shall be carried out generally as set forth in the Government's Statement of Work, Attachment 1, dated 28 May 2014, which has been based on the Recipient's proposal, "Memory Enhancement with Modeling, Electrophysiology, and Stimulation (MEMES)", and Data Matrix, Attachment 2, copies of which are in the possession of both parties.

2. Term: The term of this Cooperative Agreement commences on the effective date of award and continues through twenty-four (24) months thereafter.

3. Terms and Conditions: This Cooperative Agreement is subject to the terms and conditions set forth in the Exhibit A, entitled "SSC Pacific Research Grant and Agreement General Terms and Conditions for Educational Institutions and Nonprofit Organization (August 2013) - including Appendix C Animal/Human Use," and Exhibit B "Identification and Assertion of Use, Release, or Disclosure Restrictions on the Government's Use, Release, or Disclosure of Technical Data or Computer Software."

4. Government Technical Representative: The Government Technical Representative (GTR) under this Cooperative Agreement is (b)(6) SSC Pacific/Code 71510, Tel. (619) 553-3889, email: (b)(6) @navy.mil.

5. Administrative Grants Office: The Administrative Grants Office for this Cooperative Agreement is the Office of Naval Research, Chicago Regional Office, (N62880) (Attn: (b)(6) Tel (312) 886-2167, email: (b)(6) @navy.mil

6. Principal Investigator: The Principal Investigator, Michael Kahana, Tel. (215) 746-3501, email: kahana@psych.upenn.edu, shall be responsible for this effort. The Recipient agrees to notify the Grantor before changing the Principal Investigator.

7. Payments: Payment Request Submission

Electronic payment request processing using PayWeb as the entry point to Wide Area Work Flow (WAWF): WAWF has been designated as the Department of Defense standard for electronic invoicing and payment. To facilitate this effort for Universities and Nonprofit Organizations, DoD has established PayWeb as an initial entry point to WAWF. Please submit all invoices under this award using the Standard PayWeb process. PayWeb will feed these payment requests to WAWF and perform approvals and certifications in the actual WAWF system.

WAWF/PayWeb Points of Contact: To comply with the above initiative, you must register in WAWF and have your CAGE code activated. Your System for Award Management (SAM) Electronic Business (EB) Point of Contact is responsible for activating the company's CAGE code on WAWF by calling 1-866-618-5988. Once the company is activated, the SAM EB will self-register on the WAWF (<https://wawf.eb.mil>) and follow the instructions for a group administrator. The ONR Regional Office listed in Schedule item 5. is your contact for all matters relating to the use of WAWF and PayWeb.

Payment Office:

DFAS CO-North Entitlement Operations  
P.O. Box 182266  
Columbus, OH 43218-2266  
Code: HQ0337

8. Cooperative Agreement Funding:

This Cooperative Agreement base period is incrementally funded in the amount of \$5,734,754. The unfunded balance of \$5,164,342 is for the human research components and will be funded upon acceptance of certifications from the Institutional Review Board (IRB).

The Government's obligation to make payments to the Recipient is limited to only those funds obligated by this Agreement or by modification to this Agreement. Subject to availability of funds and continued

satisfactory progress on the Agreement as determined by the Government, the Government may agree to provide additional funding.

The Recipient shall notify the AGO in writing promptly whenever the total Agreement amount is expected to exceed the needs of the Recipient for the project period by more than \$5,000 or 5% of the award, whichever is greater. This notification shall not be required if an application for additional funding is submitted for a continuation award.

9. Additional Effort/Options

Option 1 – Anytime prior to the expiration date of the Agreement, the Government may elect to support additional research tasks as identified in the SOW as Option 1. This option is valued at \$11,603,015 a part of which, \$6,000,000, is for the human research components, which shall be funded upon re-certification by IRB in the Option period. Funding of this option will be in the form of a unilateral modification to this Agreement. The research will be based on the Recipient's Technical Proposal and the following terms and conditions:

Exercise of the option will add 24 months to the total period of performance of the Agreement.

10. Sub-Awards: Sub-awards with the following organizations are hereby approved, as set forth in the Recipient's proposal, in accordance with the funding limitations described in Section 8. of this Schedule:

University of Washington, Clinical  
University of Washington, Primate  
Emory University  
Drexel University  
Thomas Jefferson University  
Dartmouth College  
Boston University  
Mayo Clinic  
Medtronic, Inc.  
NeuroPace, Inc.

FOR RECIPIENT:

[Redacted Signature]

Date: 2014.07.23 10:39:20 -04'00'

(Name, Title)

(Date)

FOR The United States of America, Space and  
Naval Warfare Systems Center Pacific

[Redacted Signature] (b)(6)

Tamara Cunningham  
Grants Officer

7/23/14  
(Date)